JS24U1GD54-3

1-Line Uni-directional High Power TVS Diode

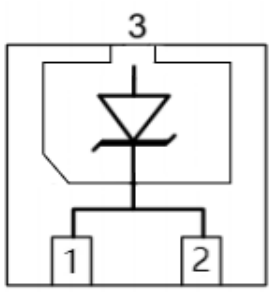
Description

The JS24U1GD54-3 is high power TVS, utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage making this device an ideal solution for protecting voltage sensitive lines.It is assembled into a 3-pin DFN2X2-3L lead-free pack-age. Each device will protect one line. The combination of small size, and high surge capability makes them ideal for use in applications such as cellular phones, LCD displays,USB, and multi media card.

Features

* 6000W Peak pulse Power (8/20us)
* Protects one power or I/O
* Transient protection for high-speed data lines
* Low clamping voltage
* Low leakage current
* IEC 61000-4-2 (ESD)
  - ±30kV Contact Discharge
  - ±30kV Air Discharge
* IEC 61000-4-4 EFT Protection - 40A (5/50ns)
* Halogen free and RoHS compliant

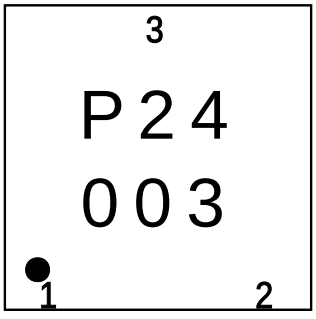
Circuit Diagram



Mechanical Data

* Cell Phone Handsets and Accessories
* Microprocessor based equipment
* Personal Digital Assistants
* Notebooks / Desktops / Servers
* Portable Instrumentation
* Peripherals & Pagers

Marking Diagram



Ordering Information

Part Number	Packaging	Reel Size
JS24U1GD54-3	3000/Tape & Reel	7 inch

Absolute Maximum Rating

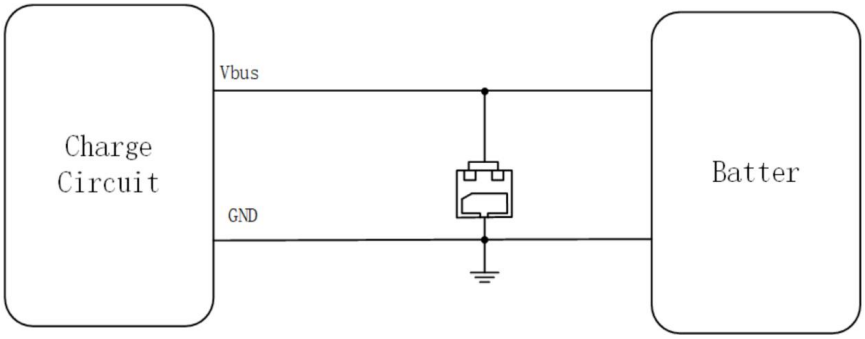
Over operating free-air temperature range (unless otherwise noted)

Parameters	Symbol	Min.	Max.	Unit
Peak pulse power (tp=8/20us)@25℃	P_{pk}	-	6000	W
Peak pulse current (tp=8/20us)@25℃	I_{PP}		200	A
ESD (IEC61000-4-2 air discharge) @25℃	V_{ESD}	-	±30	kV
ESD (IEC61000-4-2 contact discharge) @25℃	V_{ESD}	-	±30	kV
Junction temperature	T_J	-	125	℃
Operating temperature	T_{OP}	-40	125	℃
Storage temperature	T_{STG}	-55	150	℃
Lead temperature	T_L	-	260	℃

Eletrical Characteristics At TA=25℃ unless otherwise noted

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				24	V
Reverse Breakdown Voltage	V_{BR}	IT=1mA	26.5			V
Reverse Leakage Current	I_R	V_{RWM}=24V			1	uA
Clamping Voltage	V_C	I_{PP}= 100A; tp=8/20us		26		V
Clamping Voltage	V_C	I_{PP}=200A; tp=8/20us		30		V
Junction Capacitance	C_J	I/O to GND; VR=0V; f=1MHz		700		pF

Typical Application Typical Interface Application



Ratings and Characteristic Curves(TA=25℃ unless otherwise noted)

Figure 1. Clamping voltage vs. Peak pulse current

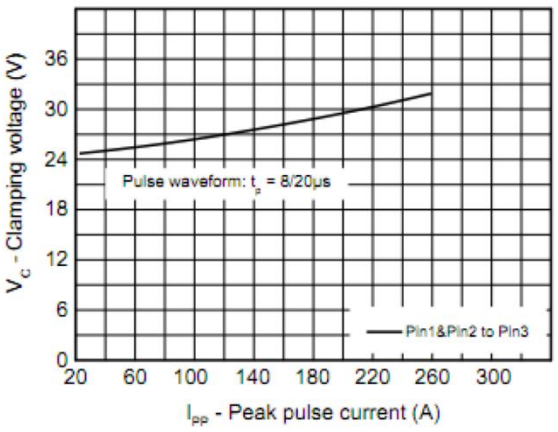


Figure 2 Peak pulse power derating curve

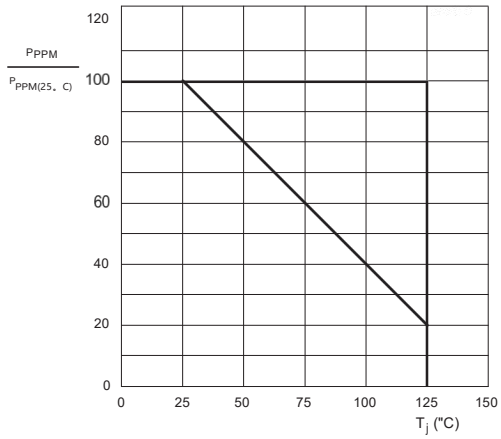


Figure 3 Pulse waveform

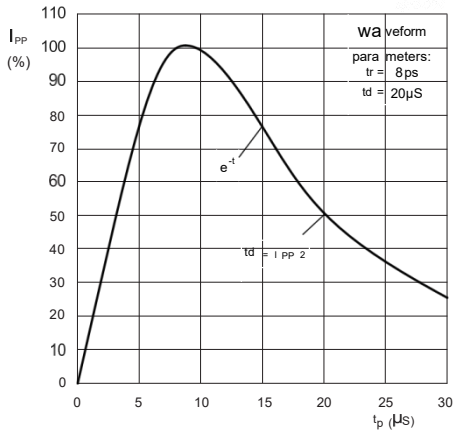
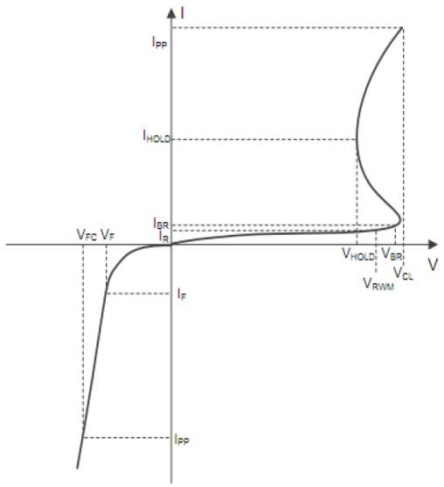
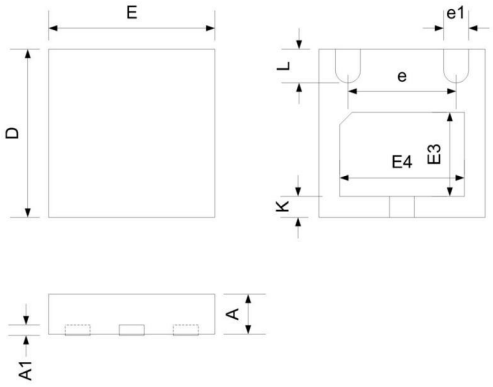


Figure 4 Parameters

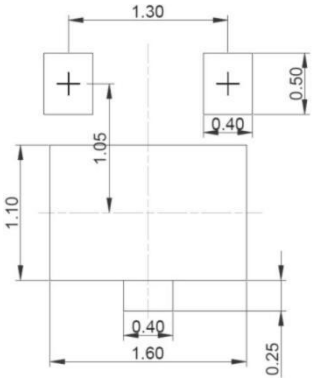


DFN2X2-3L Package Outline Drawing



Symbol	Dimensions in Millimeters		
	Min.	Max.	
D	1.900	2.000	2.100
E	1.900	2.000	2.100
e	1.200	1.300	1.400
e1	0.200	0.300	0.400
E3	0.850	1.000	1.150
E4	1,350	1.500	1.650
K	0.150	0.250	0.350
L	0.300	0,400	0.500
A	0.425	0.475	0.525
A1	0.100	0.125	0.150

Recommended Land Pattern



Note:

1. Controlling dimension: in millimeters
2. General tolerance: ±0.05mm
3. The pad layout is for reference only

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